

TECHNICAL REVIEW DOCUMENT
for
RENEWAL / MODIFICATION TO OPERATING PERMIT 96OPWE125

Golden Aluminum, Inc.
Weld County
Source ID 1230089

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April, August and September 2009

I. Purpose:

This document establishes the decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered by the renewal and modification of the Operating Permit for Golden Aluminum, Inc. The current Operating Permit for this facility was issued on July 1, 2005 and expires on July 1, 2010. The source submitted a renewal application on July 1, 2009. Prior to submittal of the renewal application, the source submitted applications on April 1 and 6, 2009 requesting that the permit be modified to allow coated charge to be processed in all three sidewells of the melters and to allow coated charge to be processed in the sidewells of two melters at the same time.

This document is designed for reference during review of the proposed permit by EPA and for future reference by the Division to aid in any additional permit modifications at this facility. The conclusions made in this report are based on the renewal application submitted on July 1, 2009 and the modification applications submitted on April 1 and 6, 2009, previous inspection reports and various e-mail correspondence, as well as telephone conversations with the applicant. Please note that copies of the Technical Review Document for the original permit and any Technical Review Documents associated with subsequent modifications of the original Operating Permit may be found in the Division files as well as on the Division website at <http://www.cdphe.state.co.us/ap/Titlev.html>. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised construction permit.

II. Description of Source

This facility is an aluminum sheet manufacturing plant, which falls into the Standard

Industrial Classification 3353. Golden Aluminum manufactures coiled aluminum sheet by recycling Rigid Can Stock (RCS) using prime aluminum and other alloying materials. The RCS is shredded to expose the coating, then sent to a delacquering kiln to remove the coatings. The shreds are then melted in two of three furnaces, plant scrap is melted in any of the three furnaces. The shreds are then mixed with prime aluminum and alloying elements. The molten aluminum goes through a series of degassing boxes. The aluminum is solidified at the caster, then the cast sheet is sent to the hot mill where it is coiled then to either the annealing processes or to the cold mill. The coils are processed to customer specifications then sent to the tab wash line or coating line. After the tab wash the coils are then slit and packaged. After the coating line the coils are cured in a five oven process, cooled and lubricated. The coils are then slit and packaged.

The facility is located in Fort Lupton, Weld County. This facility is located in an Area classified as attainment for all pollutants except ozone. It is classified as non-attainment for ozone and is part of the 8-hr Ozone Control Area as defined in Regulation No. 7, Section II.A.1.

There are no affected states within 50 miles of the plant. The following Federal Class I designated area is within 100 kilometers of the plant: Rocky Mountain National Park.

Accidental Release Prevention Program (112(r))

This facility is not subject to the provisions of the Accidental Release Prevention Program (112(r)).

MACT Requirements

This facility is not a major source for hazardous air pollutant (HAP) emissions. However, the facility is subject to the area source (minor source) requirements in 40 CFR Part 63 Subpart RRR, "National Emission Standards for Hazardous Air Pollutants for Secondary Aluminum Production" The appropriate requirements from 40 CFR Part 63 Subpart RRR have been included in the permit.

Compliance Assurance Monitoring (CAM) Requirements

The delacquering kiln (S002) is subject to CAM for the HAP (HCl) emission limitations and the melt area baghouse (S006) is subject to CAM for the PM, PM₁₀ and HAP (HCl) limitations. CAM requirements for these units were included in the July 1, 2005 renewal permit.

The summary of emissions that was presented in the Technical Review Document for the previous renewal permit has been modified to reflect the updated potential to emit (PTE) due to changes that may have occurred in emission limitations and/or the removal of equipment since the previous permit was issued. Emissions (in tons/yr) at the facility are as follows:

Emission Unit	Potential (Permitted) Emissions (tons/yr)						
	PM	PM ₁₀	NO _x	CO	VOC	Lead	HAPs
S001 – preheaters, shredders, cyclones	9.8	9.8					See Table on Page 13
S002 – delaquering kiln	1.54	1.54	4.97	3.33	2.28	0.32	
S003 – S005 – Melters # 1 thru 3	37.6	37.6	70.6	23.85	8.06		
S006 – Melt Area Baghouse	11.90	11.90					
S008 – Hot Mill	3.9	3.9					
S009 – Two (2) Annealling Furnaces	1.38	1.38	4.22	3.54	4.21		
S010 – Cold Mill	9.15	9.15			67.38		
S011 – Coil Coating Line	0.86	0.86	11.28	9.47	14		
Total	76.13	76.13	91.07	40.19	95.93	0.32	12.55

Potential to emit is based on permitted emissions. The source reports PTE as actual emissions; therefore, actual emissions are not shown.

In the above table, the breakdown of HAP emissions by emission unit and individual HAP is provided on page 13 of this document. Except for the coil coating line, HAP emissions are based on the emission factors included in the permit and permit limits for material processing and/or fuel consumption. For the coil coating line, emissions from coatings are based on the estimates provided in the synthetic minor permit application submitted on October 29, 2002 and emissions from fuel burning are based on the permitted fuel consumption limit and the emission factors included in the permit. Note that the facility is subject to a facility wide HAP limit to keep emissions below the major source levels (10 tpy of any individual HAP and 25 tpy of combined HAPs).

It should be noted that a Title V Operating Permit for this facility is not required, since the source is not major for criteria pollutants and the source took limits on HAP emissions to become a minor (area) source for HAPS (less than 10 tpy of any individual HAP and less than 25 tpy of combined HAPS) in a facility wide construction permit issued on March 21, 2003. At the time of that construction permit issuance, area sources were (and still are) subject to some requirements in the Secondary Aluminum Production MACT (40 CFR Part 63 Subpart RRR), but could be deferred from filing a Title V permit application until December 9, 2004. Therefore, at the time of issuance of the construction permit to make the facility a minor source for HAPS, the Title V permit could have been cancelled. EPA recently promulgated revisions to 40 CFR Part 63 Subpart RRR to completely exempt area sources from the obligation to obtain a Title V permit (published in the Federal Register on December 19, 2005). Therefore, at this time, the source is not required to have a Title V permit. The source has elected to retain their Title V permit.

III. Discussion of Modifications Made

Source Requested Modifications

In their modification applications submitted on April 1 and 6, 2009, the source requested that the permit be revised to allow coated charge to be processed in the sidewell of the third melter (processing coated charge is currently allowed in the sidewells of two melters) and that the permit allow for processing of coated charge in two sidewells at the same time. No increase in permitted emissions has been requested with this application. In their application, the source indicated that this modification met the requirements for a minor permit modification and requested that the minor permit modification procedures in Colorado Regulation No. 3, Part C, Section X be used.

Colorado Regulation No. 3, Part C, Section X.A identifies those modifications that can be processed under the minor permit modification procedures. Specifically, minor permit modifications “are not otherwise required by the Division to be processed as a significant modification” (Colorado Regulation No. 3, Part C, Section X.A.6). The Division requires that “any change that is considered a modification under Title I of the Federal Act” be processed as a significant permit modification (Colorado Regulation No. 3, Part C, Section I.A.7). Part G of Regulation 3 Section I.L, revisions adopted July 15, 1993, Subsection I.G for modifications) describes more specifically what constitutes a modification under Title I of the Federal Act and it indicates that a modification which triggers either Section 111 (NSPS) or 112 (MACT) requirements is considered a Title I modification. The third sidewell is not currently subject to MACT requirements, however, allowing the third sidewell to process coated charge will make that sidewell subject to MACT requirements. Although the third sidewell is not currently subject to MACT requirements, the other two sidewells are and the appropriate MACT requirements are included in the permit. Therefore, since the MACT requirements are already in the permit, the Division considers that no new MACT requirements are triggered and this modification can be processed as a minor modification.

Modeling

No changes to emission limitations are being made with this modification; therefore, no modeling is required.

The requested modification was addressed in the permit as follows:

Section I.2 (Alternative Operating Scenarios)

As long as the permit addresses processing of coating charge in any of the three melter sidewells, the Division doesn't consider that it is necessary to consider the processing of coated materials in melters #1 and #2 to be an AOS, in lieu of using melter #3.

Sections II.3 and 4

Conditions 3.8 and 3.9 were combined. The melters are only subject to MACT requirements when the melter sidewells are processing coated charge. Conditions 3.9.1 (not necessary and sidewell throughput and emission limitations are addressed in Section II.4) and 3.9.4 (no longer considered an AOS) were removed. In addition the “note” regarding the melt area baghouse in Condition 3.9.3 was removed, a condition regarding MACT requirements was added to Section II.4 of the permit. The new permit condition (Condition 3.8) specifies that coated charge only processed in one sidewell at a time (unless a performance test is conducted for two sidewells operating at the same time), requires that operation of the sidewells meet the MACT requirements and sets out specific recordkeeping requirements.

The note under Condition 4.5 that referred to Condition 3.9 (regarding MACT conditions) was removed. The Division included the MACT language in Condition 3.8 of the permit in “new” Condition 4.6.

July 1, 2009 Renewal Application

In their renewal application, the source requested that the units in the summary table in Section II.8 (coil coating line) be corrected. The source indicates that the units should be in kft^2/yr , rather than ft^2/yr . The Division reviewed our files and the APEN submitted with the October 29, 2002 application to revise their permits to take federally enforceable HAP limits and to make various other modifications to their facility (including increasing the coating line speed), indicated that the requested throughput limit for the coating line was indeed in the units of kft^2/yr , rather than ft^2/yr . Therefore, this error was corrected as requested.

Other Modifications

In addition to the requested modifications made by the source, the Division used this opportunity to include changes to make the permit more consistent with recently issued permits, include comments made by EPA on other Operating Permits, as well as correct errors or omissions identified during inspections and/or discrepancies identified during review of this modification.

The Division has made the following revisions, based on recent internal permit processing decisions and EPA comments on other permits, to the Golden Aluminum, Inc. Operating Permit with the source’s requested modifications. These changes are as follows:

Section I – General Activities and Summary

- Revised the description under Condition 1.1 to address the attainment status of the area in which the facility is located.
- Added Section IV, 3.d as state-only conditions to Condition 1.4. Note that Section IV, Condition 3.d (affirmative defense provisions for excess emissions during malfunctions) is state-only until approved by EPA in the SIP.

- Made minor revisions to the language in Condition 3.1 to be more consistent with other permits and to correct citations that changed based on revisions to Reg 3. In addition, revised this condition to address the attainment status of the area in which the facility is located.
- Added a column to the table in Condition 5.1 indicating the date the equipment commenced operation. In addition revised the descriptions of the baghouses to indicate they are lime injected. Added a note to the table indicating that emissions from the melter sidewells are routed to the melt area baghouse.

Section II – General

- For permit conditions requiring twelve month rolling totals, the language “shall be maintained for demonstration of compliance” was replaced with “shall be used to monitor compliance”.
- Indicated the source of the emission factors included in the permit.

Section II.1 – Prebreakers, Shredders and Cyclones with Baghouse

- The language in this condition was reformatted to make the requirements more apparent. In addition, some minor language changes were made in this process. It should be noted that with the formatting change, the numbers of several permit conditions will also change.
- Removed the language in the table under Condition 1.1 regarding a performance test. No performance test requirements for these units are included in the permit.
- Added a requirement to calculate emissions on a 12-month rolling total. The Division typically requires emission calculations at for purposes of APEN reporting. For emission units with permitted emissions, the calculations are typically on a twelve month rolling total.
- The PM short term (lb/hr) limit is incorrect, this has been revised.
- Combined “old” conditions 1.1.1 and 1.1.2 (“new” condition 1.1.3.1).
- Revised the language in “old” condition 1.1.3 (“new” condition 1.1.3.2) to indicate specifically when a Method 9 will be conducted and to specify that the Method 9 be conducted by a certified observer and that records of the Method 9 observations be kept on site.
- Minor revisions to the monitoring language for the opacity requirements (Conditions 1.3 and 1.4) were made in both the table and text.

Section II.2 – Delaquering Kiln

- The language in this condition was reformatted to make the requirements more

apparent. In addition, some minor language changes were made in this process. It should be noted that with the formatting change, the numbers of several permit conditions will also change.

- Removed the language in the table under Condition 2.1 regarding a source test. No performance test requirements for this unit are included in the permit.
- Combined “old” conditions 2.1.2.1 and 2.1.2.2 (“new” condition 2.1.4.1).
- Revised the language in “old” condition 2.1.2.3 (“new” condition 2.1.4.2) to indicate specifically when a Method 9 will be conducted and to specify that the Method 9 be conducted by a certified observer and that records of the Method 9 observations be kept on site.
- Added language to Condition 2.3 to indicate that fuel allocation shall be conducted in accordance with Appendix G.
- Minor revisions to the monitoring language for the opacity requirements (Conditions 2.4 and 2.5) were made both in the table and text.
- Added the MACT emission limitation in the table under condition 2.6.

Section II.3 – Main Hearths (Melters)

- Added language to clarify that the PM and aluminum consumption limits only apply to the main hearths, not the melter sidewells.
- Revised Condition 3.5 to indicate that fuel consumption is determined by the fuel meter, rather than the allocation calculation. This condition was to be corrected with the last permit modification but was inadvertently left unchanged.
- Conditions 3.8 and 3.9 have been combined. The melters are only subject to MACT requirements when the melter sidewells are processing coated charge.

Section II.4 – Melt Area Baghouse

- Revised the title of this section to add (Melters #1, #2 and #3 sidewells), to make it clear that the baghouse controls emissions from these units.
- The language in this condition was reformatted to make the requirements more apparent. In addition, some minor language changes were made in this process. It should be noted that with the formatting change, the numbers of several permit conditions will also change.
- Removed Condition 4.1.3 and included requirements (in “new” Condition 4.1.2) to calculate emissions on a twelve month rolling total, as this is more consistent with other Title V permits.
- Combined “old” conditions 4.1.1.1 and 4.1.1.2 (“new” condition 4.1.3.1).

- Revised the language in “old” condition 4.1.1.3 (“new” condition 4.1.3.2) to indicate specifically when a Method 9 will be conducted and to specify that the Method 9 be conducted by a certified observer and that records of the Method 9 observations be kept on site.
- Minor revisions to the monitoring language for the opacity requirements (Conditions 4.3 and 4.4) were made both in the table and text.

Section II.5 – Hot Mill

- The language in this condition was reformatted to make the requirements more apparent. In addition, some minor language changes were made in this process. It should be noted that with the formatting change, the numbers of several permit conditions will also change.
- Removed Condition 5.1.2 and included requirements (in “new” Condition 4.1.2) to calculate emissions on a twelve month rolling total, as this is more consistent with other Title V permits.
- Combined “old” conditions 5.1.1.1 and 5.1.1.2 (“new” condition 5.1.3.1).
- Revised the language in “old” condition 5.1.1.3 (“new” condition 5.1.3.2) to indicate specifically when a Method 9 will be conducted and to specify that the Method 9 be conducted by a certified observer and that records of the Method 9 observations be kept on site.
- Removed “old” condition 5.1.1.4 as the requirements in this condition are really covered by “new” condition 5.1.3.1.
- Minor revisions to the monitoring language for the opacity requirements (Conditions 5.4 and 5.5) were made both in the table and text.

Section II.6 – Annealing Furnaces

- The language in this condition was reformatted to make the requirements more apparent. In addition, some minor language changes were made in this process. It should be noted that with the formatting change, the numbers of several permit conditions will also change.
- Corrected the short-term (lbs/hr) PM emission limitations citation and equation.

Section II.7 – Cold Mill

- The language in this condition was reformatted to make the requirements more apparent. In addition, some minor language changes were made in this process. It should be noted that with the formatting change, the numbers of several permit conditions will also change.
- Corrected the short-term (lbs/hr) PM emission limitations citation and equation.

- Removed “old” Condition 7.1.2 and included requirements (in “new” Condition 7.1.2) to calculate emissions on a twelve month rolling total, as this is more consistent with other Title V permits.
- Combined “old” conditions 7.1.1.1 and 7.1.1.2 (“new” condition 7.1.3.1).
- Revised the language in “old” condition 7.1.1.3 (“new” condition 7.1.3.2) to indicate specifically when a Method 9 will be conducted and to specify that the Method 9 be conducted by a certified observer and that records of the Method 9 observations be kept on site.
- Removed “old” condition 7.1.1.4 as the requirements in this condition are really covered by “new” condition 7.1.3.1.
- Minor revisions to the monitoring language for the opacity requirements (Conditions 7.3 and 7.4) were made both in the table and text.

Section II.8 – Coil Coating

- Minor language changes were made to Conditions 8.1 through 8.4.
- Revised Condition 8.5 to more appropriately address the NSPS TT requirements.
- Based on EPA’s response to a petition on another Title V operating permit, minor language changes were made to Conditions 8.7 and 8.8 to clarify that only natural gas is permitted to be used as fuel for the thermal oxidizer.
- The language in Condition 8.9 was revised as this language appears to repeat many of the NSPS requirements.

Section II.9 – Facility Wide HAP Limits

- In order to be more consistent with the way Division sets synthetic minor HAP limits, the facility wide HAP limits were revised to be set at 8 tons/yr for any individual HAP and 20 tons/yr of combined HAPS.
- Other minor language changes were made in both the table and the text.

Section II.10 – Secondary Aluminum MACT requirements

There are several requirements included in this section that don’t apply to the Golden Aluminum facility. In addition, there are requirements that do apply that are not included. Therefore, the appropriate sections have been added and removed.

Sections that were removed include the following:

- Under monitoring requirements (63.1510): Conditions 10.16 (group 1 furnaces), 10.17 (scrap inspection program for group 1 furnaces) and 10.18 (monitoring of

scrap contamination level by calculation method for group 1 furnace) were removed since the group 1 furnaces are equipped with add-on air pollution control device.

- Under monitoring requirements (63.1510): Condition 10.20 was removed since the source demonstrates compliance with the alternative method specified in 63.1510(u), which is included in Condition 10.21.
- Under performance test/compliance demonstration general requirements (63.1511): Removed Condition 10.26 (repeat tests) since it only applies to major sources. Removed Condition 10.27 (testing of representative emission units) since this condition only applies to group 1 furnaces without add-on control devices.
- Under performance test/compliance demonstration requirements and procedures (63.1512): Removed Condition 10.30 (secondary aluminum processing units), since the performance testing required by this condition is used to determine the emission rates to be used in 63.1510(t) (Condition 10.20), which is not the compliance method the source is following (see above under “monitoring requirements (63.1510)”).

Sections that were added include the following:

- Under monitoring requirements (63.1510): Added requirements for fabric filters and lime-injected fabric filters (63.1510(f)), fabric filter inlet temperature (63.1510(h)), lime injection (63.1510(i)), total reactive flux injection rate (63.1510(j)) and alternative monitoring method for lime addition (63.1510(v)).
- Under performance test/compliance demonstration general requirements (63.1511): Added requirements for the initial performance test (63.1511(b)).
- Under performance test/compliance demonstration requirements and procedures (63.1512): Added requirements for group 1 furnace with add-on air pollution control devices (63.1512(d)), afterburner (63.1512(m)), inlet gas temperature (63.1512(n)), flux injection rate (63.1512(o)), lime injection (63.1512(p)) and bag leak detection system (63.1512(q)).
- Added a new condition for the applicability of general conditions (63.1518).

Other corrections were made to this section as follows:

- In Condition 10.1, removed the reference to Conditions 10.3.1 through 10.3.5, there are no such conditions in this permit and the limitations in § 63.1505(d) were not included in the permit.
- Replaced “SAPU” in Condition 10.2 with “secondary aluminum processing unit (SAPU)”.
- Added the requirements in § 63.1505(i)(7) as Condition 10.2.3.

- Removed the second paragraph under “§ 63.1506 Operating Requirements” as the language in this paragraph (63.1506(a)(2)) has been revised in the regulation and is no longer applicable to this facility.
- More detailed information the appropriate regulations were added to Conditions 10.7, 10.8, 10.9.

Section II.11 and Appendix H – CAM requirements

- Since daily visible emission observations and pressure drop reading are included in Section II of the permit as periodic monitoring, these indicators were removed from the CAM plan (for PM and PM₁₀ emission limitations). The CAM plan will be based on the bag leak detection system (for PM and PM₁₀ emission limitations).
- Combined CAM requirements into one table. Revised the language somewhat to be more clear as to what excursions are (the previous permit used the term deviation, as well as excursion) and to be more consistent with the MACT requirements.
- Other minor language changes were made to the CAM requirements.

Section III – Permit Shield

- Due to formatting changes and renumbering of some permit conditions, the condition numbers in Section III.3 (Streamlined Conditions) were corrected.
- Revised the table for Streamlined Conditions (Section III.3) to indicate the different short term (lbs/hr) PM limitations)

Section IV – General Conditions

- Added a version date to the General Conditions.
- The title for Condition 6 was changed from “Emission Standards for Asbestos” to “Emission Controls for Asbestos” and in the text the phrase “emission standards for asbestos” was change to “asbestos control”.
- The upset requirements in the Common Provisions Regulation (general condition 3.d) were revised December 15, 2006 (effective March 7, 2007) and the revisions were included in the permit. Note that these provisions are state-only enforceable until approved by EPA into Colorado’s state implementation plan (SIP).
- Replaced the reference to “upset” in Condition 5 (emergency provisions) and 21 (prompt deviation reporting) with “malfunction”.

Appendices

- On the first page of the appendices, changed the descriptions of Appendices B and C to match the header titles for these appendices.
- Replaced Appendices B and C with the latest versions.
- Changed the mailing address for EPA in Appendix D.
- Corrected Appendix G to indicate that Units S003 – S005 and S007 do not use the fuel allocation methodology. Units S003 – S005 have individual fuel meters and S007 has been removed from the facility.

Total HAP Emissions (tons/yr)

Pollutant	S001 Shredders	S002 Delaq. Kiln	S003 - S005 Melters	S006 Melt Baghouse	S008 Hot Mill	S009 Annealing	S010 Cold Mill	S011 Coil Coating*	Total
Metal HAPs	2.63E-02	3.75E-03		3.07E-02					6.07E-02
HCl		0.38		2.95					3.32
HF				0.28					0.28
methyl ethyl ketone								2.08	2.08
Xylene								2.88	2.88
ethyl benzene								0.56	0.56
2-butoxyethanol								0.97	0.97
methyl isobutyl ketone								0.44	0.44
hexane		5.40E-02	5.11E-01			7.60E-02		2.03E-01	8.44E-01
formaldehyde		2.25E-03	2.13E-02			3.17E-03		8.44E-03	3.52E-02
benzene		6.30E-05	5.96E-04			5.96E-04		2.36E-04	1.49E-03
toluene		1.02E-04	9.66E-04			1.43E-04		1.07E+00	1.07E+00
total	0.03	0.44	0.53	3.26	0.00	0.08	0.00	8.21	12.55

*HAP emissions from coatings based on emissions provided in synthetic minor application submitted on 10/29/02. HAPs from fuel burning are based on AP-42 emission factors (Section 1.4 (3/98), Table 1.4-3) and the permitted fuel consumption limit.